



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
AUGUST 2, 1996, 1:30 P.M.
EXECUTIVE CONFERENCE ROOM**

Present:	T. A. Coleman T. E. Myers (J. D. Culp) D. L. Smiley (J. W. Reincke) J. D. Davis (Eng. Serv.)	C. Roberts C. T. Maki W. C. Turner C. J. Arnold	L. R. Brown P. F. Miller E. D. Winkler J. Steele (T. Fort)
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Guest: S. Bower

OLD BUSINESS

1. Approval of the Minutes of the July 8, 1996, Meeting -T. A. Coleman

Minutes of the July 8, 1996, meeting were approved with revisions regarding the Action Statement for the following item:

OLD BUSINESS: Item 5, "Light Emitting Diode (LED)"

ACTION (As Written): The proposed recommendation for expanded use of LED light and solar-assist arrow boards was approved, as presented. The Construction and Materials and Technology Divisions were charged to prepare and distribute a joint memo of instruction on the use and application of LEDs on MDOT projects.

ACTION (Revised): The proposed recommendation for expanded use of LED light and solar-assist arrowboards was approved, as presented. The Construction and Materials and Technology Divisions were charged to prepare and distribute a joint memo of instruction on the use and application of LEDs on ALL MDOT projects.

2. Warranties: Bituminous Construction Projects or Concrete - P. F. Miller/C. J. Arnold

An update of ongoing activities to address contract warranties was presented by the Design and Construction Divisions. Both divisions will continue with their efforts; Design will identify several small projects to be let as a warranty contract. A status report will be presented at the September meeting.

3. Rumble Strip Preservation - L. R. Brown

An update on maintenance related activities were presented. Maintenance will continue its activities and will provide a report at the September meeting..

4. Galvanized Guardrail - T. A. Coleman

The Maintenance Division is in the process of identifying demonstration projects for the use of pregalvanized guardrail. The Materials and Technology Division will provide assistance in performing the field evaluations. An update will be provided at the September meeting.

NEW BUSINESS

1. An Evaluation of Including User Costs in Pavement Selection - P. F. Miller

An overview of the study was presented in an effort to get committee comments and consideration for action the report's recommendations. The purpose of the study is to 1) review and evaluate MDOT's policies in regard to including user costs (as part of life-cycle cost analysis [LCCA]) in the paving selection decisions process, and 2) recommend certain changes in these policies, including whether to directly include user costs in selecting pavement.

The following recommendations were presented for consideration and approval:

- A. When the cost difference between alternatives is less than 20 percent, MDOT should continue its current policy of using the decision matrix described above, along with LCCA.
- B. MDOT should consider the costs and benefit of collecting data on construction zone delays and accidents to build a data base that can be used if and when a decision is made to explicitly include user costs in the pavement selection process.
- C. MDOT should investigate using the Pennsylvania method and the MicroBENCOST model (along with other promising methods that may be developed) on an experimental basis to develop expertise for future inclusion of user costs in LCCA.
- D. MDOT should reexamine this issue when a transportation funding package is enacted and the TRB (or the FHWA) develops a reliable, systematic methodology for estimating user costs.
- E. Although this report deals specifically with pavement selection, the potential benefits of accounting for user costs in LCCA extend beyond the choice of pavement. If a decision is made to account for user costs, it should be applied system wide for project selection, and not limited to pavement selection. The 1994 FHWA policy statement on LCCA recommends the principles be used by state and local agencies to evaluate program and project level investment decisions involving federal-aid highway funds.

ACTION: The EOC accepted the report as presented, and requested committee members to forward comments to Paul Miller for action to be taken at the September meeting. The Design Division, with assistance provided by the Maintenance and Traffic and Safety Divisions, was requested to take the lead to develop a five year plan on a corridor basis that will incorporate all management systems (i.e. bridge, preservation, maintenance), with recommendations for funding template(s). An interim report is requested to be presented at the October 1996 meeting.

2. Two Percent Pavement Cross Slopes - C. J. Arnold/J. R. Kalmbach

The Design Recommendation Committee (DRC) has revisited the issue of using a two percent pavement cross slope. The reason for revisiting this issue was to clarify whether it needs to be used on Highway Preventive Maintenance projects and on county/city crossroads.

The DRC is now requesting the EOC to approve the following exception to using the two percent cross slope as standard.

Highway Preventive Maintenance projects using one course of bituminous surface of 40 mm or less may match the existing pavement cross slope. County/city crossroads may use the county/city standard cross slope.

The DRC feels it would be too costly to try to change the crown on the Highway Preventive Maintenance projects, since it would require 50 percent \pm more bituminous material for wedging. The DRC also feels since the crossroads will be under the jurisdiction of the county or city, the county or city standards could be used.

ACTION: The EOC approved the proposed action in concept, with the stipulation that if candidate Highway Preventive Maintenance projects exist with a demonstrated accident history related to crown rate, those projects be carefully considered for crown correction either as part of the Highway Preventive Maintenance Program, or as part of the Road Preserve Program.

3. **Proposed Implementation Plan for Change to Mechanistic Design for Flexible Pavement and Overlays, Submitted by Dr. Gilbert Baladi of Michigan State University and David Smiley of the Materials and Technology Divisions - J. W. Reincke/D. L. Smiley**

A presentation of the proposed implementation plan to Mechanistic Design for Flexible pavements and Overlays was provided for committee consideration.

ACTION: Additional information was requested for the September meeting in two areas: 1) a more distinct explanation of the differences between “empirical” and “mechanistic” design methods, and 2) better explain how current resources would be used in a new “mechanistic process. The committee was requested to provide comments to David Smiley on review of the report. Further action was tabled for the September meeting.

4. **Use of Lightweight Trailer Sign Support - J. D. Culp**

Current Standard Specifications for Construction allow the use of trailers weighing 350 pounds or less as portable sign supports. During development of the 1996 Standard Specifications, staff recommended the elimination of this support based on concern for its crashworthiness. The support was eliminated in the draft document, but was reinserted after management discussions with industry. The FHWA is requesting we eliminate this support for the 1996 Standard Specifications, and their use should be eliminated from all contracts advertised before the new specifications book takes effect. They cannot be used on federal-aid projects.

The Michigan Road Builders Association has expressed concern, and wants to continue using the trailers.

The Traffic and Safety Division request the removal of lightweight trailer sign supports from the new specification book, and contracts that will be advertised before the specification book takes effect.

ACTION: The Traffic and Safety Division, with assistance provided by the Construction Division, will take the lead to arrange a meeting with the construction industry to ascertain their views/concerns in an effort to address all prevailing issues. A progress report will be provided at the September meeting for further consideration.

5. **AASHTO-SHRP Research - L. R. Brown**

Larry Brown provide a briefing of the 1996 AASHTO subcommittee on maintenance held in Idaho. Some of the key research items were:

- A. A survey of all the states was conducted about the use of SHRP findings, and the results were disappointing in that many states are still not taking advantage of all the good stuff discovered by SHRP. The study did say most were aware of the findings, but the states have not really changed their practices as much as hoped.
- B. There is an effort to have research done on a regional basis rather than each state do their own thing. This effort would call for a "lead state" to take on particular research effort or product/material/equipment study and share the results with others. This is obviously intended to share in the expense to conduct research and to also allow vendors to get product acceptance in multiple states quicker. Of course, the other states may be asked to participate in the cost incurred by the lead state.
- C. A reference was also made about the findings of TRB Report 223, which says a transportation agency's MOST cost effective pavement strategy is to work on preserving the pavements in the better condition first, and the poorer ones last. Conversely working on the "worst first" is the LEAST cost effective policy.

ACTION: The Materials and Technology Division was requested to provide a report on the department's on-going SHRP implementation activities at the September meeting.

(Signed Copy on File at M&T)

Calvin Roberts, Secretary
Engineering Operations Committee

Attachment

cc: EOC Members
District Engineers

R. A. Welke

D. L. Coleman

D. L. Smiley

R. J. Risser, Jr. (MCPA)

A. C. Milo (MRBA)

J. Becsey (MAPA)

L. K. Heinig

G. H. Grove

R. W. Muller

T. Adams (MCA)

R. D. Till

R. E. Nordlund

L. E. DeFrain
I. B. Patel
S. Bower

G. L. Mitchell
M. Newman (MAA)
M. Frierson

G. J. Bukoski
J. Steele (FHWA)
R. J. Lippert, Jr.

C. W. Whiteside
K. Rothwell
C. Libiran